

THE PACKAGED PLAN BOOKLET

by Earthship Biotecture

PLAN OPTION BOOK







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What's an Earthship?

An Earthship is a passive solar home made out of natural and recycled materials. An Earthship can be off-grid, collecting its power from the sun and wind, its water from rain and snow and reusing and treating its own waste water with integrated water systems.

The Packaged Earthship

The Packaged Earthship is currently our most popular building and is approximately 20% cheaper than the total cost of a similarly sized Modular building. The Packaged Earthship has simpler details and can be constructed more quickly. It is ideal for temperate to warmer climates, but also works well in areas with cold winters. This building requires low maintenance and has little or no utility bills.



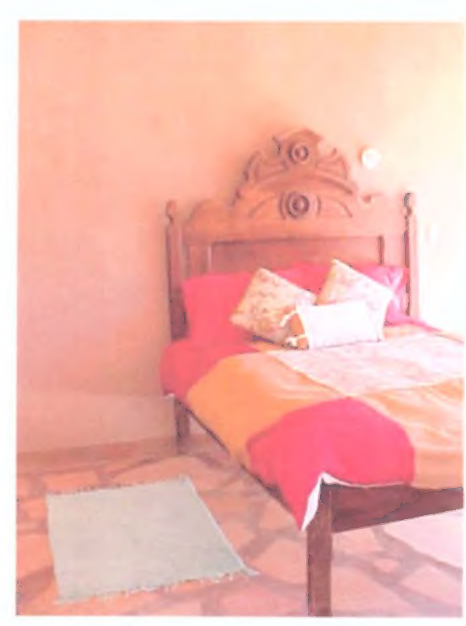
Kitchen/dining



Bathroom

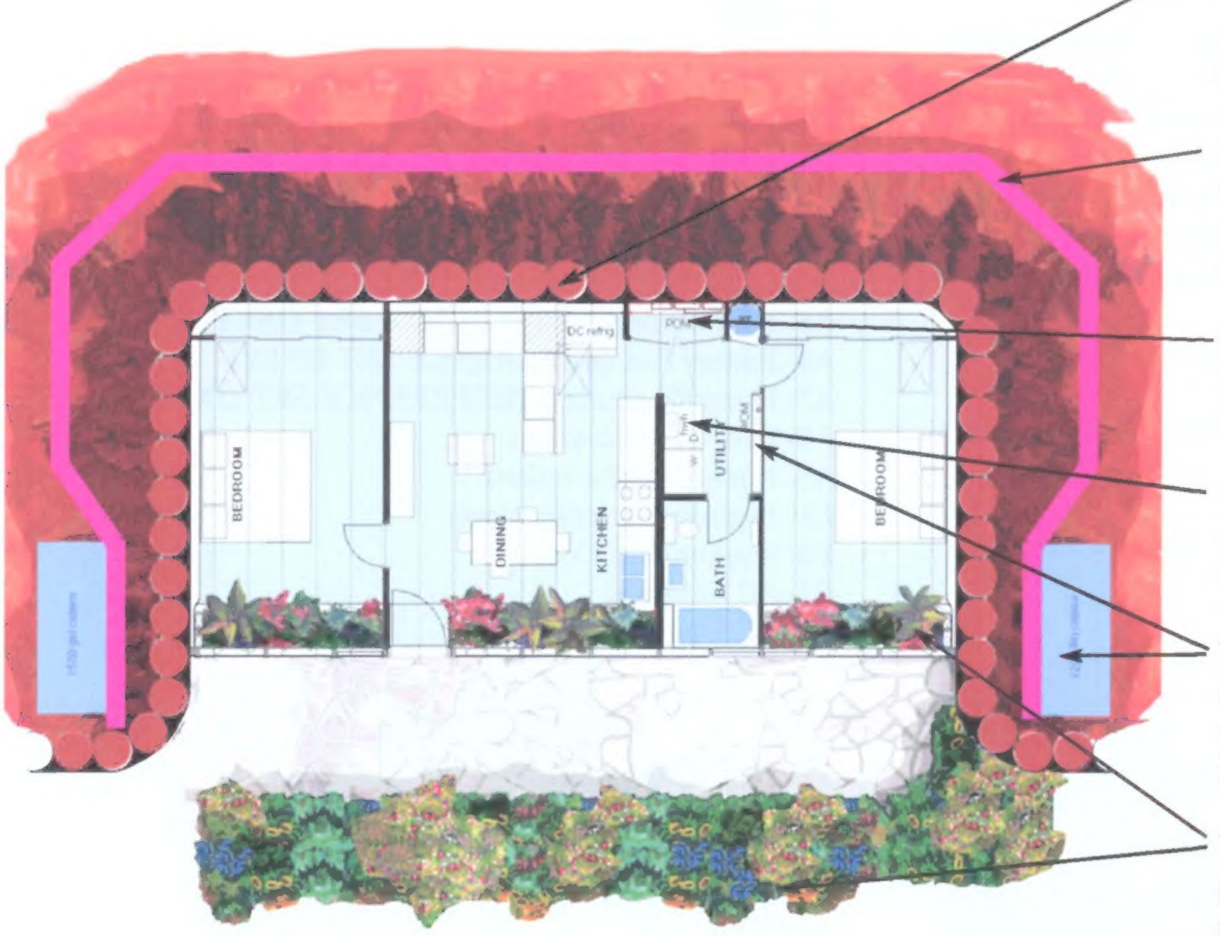


Gray water treatment planter



Bedroom

Building Features



Construction Materials Typically built with earth-rammed tires, but designs are also available for straw bale, concrete, or adobe at extra cost.

Thermal wrap of rigid insulation around building to isolate 6 foot x 6 foot block of mass from outer earth to stablize comfort of interior space.

Electrical Solar electricity with capabilities of wind, gas generator or conventional utility back up.

Water Heating Gas on demand hot water with capability of solar hot water addition.

Water Supply Roof catchment water system into water storage cistern with capability of well or community water back up.

Waste Water Treatment Contained grey water and black water treatment and distribution system with capability of conventional septic or community sewage connection.

Heating/ Cooling/ Ventilation Solar - thermal heating and cooling with option of gas or fireplace back up.

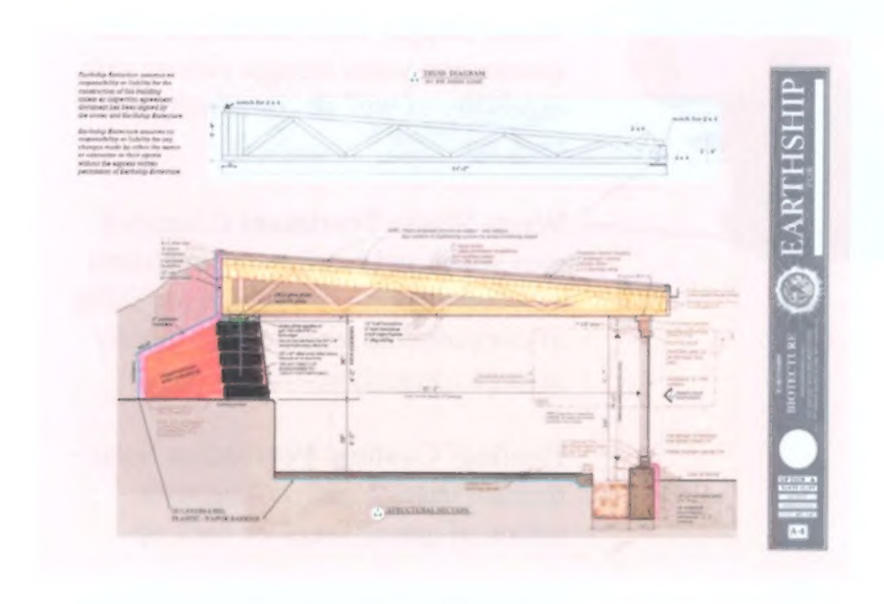
Appliances Gas cooking, gas or solar electric refrigerators.

The Drawings

A variety of drawings for the Packaged Earthship are available from a 600 square foot studio to a 1750 square foot three bedroom home. These construction drawings are prepared with the owner builder in mind and are available for permit in any state. If your county requires an engineer's stamp, we can help you locate an engineer licensed in your state. Engineer's fees are not included in the price of these drawings.

When you purchase the Packaged drawing sets, you will receive (3) sets of 11"x17" drawings and (1) five part detail booklet (8.5"x11" format) featuring material lists, support data and photographs.

Following are drawings included in the sets and a list of details addressed in the detail booklet:



A4 - Structural Section - Option A

Blueprints

A- Cover
A1- Your specific floor plan
A2-Footing/Plates
A2'-Your specific framing plan
A3 -Front face framing details
A3' Front face head and sill details
A4- Structural section
A4'- Structural wall sections
A5- Roof drainage **(REFERENCE SET ONLY)**
A6- Battery Box **(REFERENCE SET ONLY)**
A7- Plumbing drainage **(REFERENCE SET ONLY)**
A8- East/West Elevations
A9- North/SouthElevations
E1- Engineering requirements
E2- Tire Building Code
E3- AC Electrical
E4- DC Electrical

Detail Booklet

Section One- Layout, Excavation and Tire Work
S- Site layout
S1-Excavation plan and layout
S2- Site section
S3- Excavation perspective
S4- Tire layout perspective
S5- Typical tire wall and plate anchor
S6- Tire wall and plate anchor condition 1
S7- Tire wall and plate anchor condition 2
S8- Typical east/west tire wall conditions 1&2
S9- Tire wall perspective
Support data

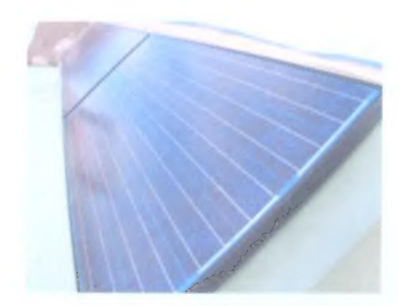
Section Three- Roof Enclosure
R1- Tire plating layout
R2- Truss framing layout
R3- Truss attachment north
R4-Truss attachment south
R5- Battery box construction
R6- Battery box installation details
R7- Skylight box details
R8- Skylight operable lid construction
R9- Roof insulation details
Support data

Section Four- Button Up
J1-Jamb at operable window
J2- End jamb at fixed glass
J3- Jamb at door and operablewindow
J4- Jamb at door and fixed window
J5- Sill detail below operable window
H1- Head detail at fixed glass
H2- Head detail at operable window
H3- Head detail at door
H4- Typical mullion detail
H5- Overview

Section Five- Mechanical
P1- Drainage plan
P2- Watter supply
P3- Cistern
P4- Cistern bulkhead
P5- Cistern installation condition 1
P6- Cistern installation condition 2
E1- DC electrical
E2- AC electrical
C1- Kitchen cabinet detail

The Components

We can arrange for all of the of the components for the structure and mechanical systems of this building to be shipped to your site for assembly. You may opt to purchase some or all of the following components for your building:


Solar panels


Window boxes


Gutter and silt catch funnel

Trusses
Operable skylights
Window boxes
Doors
Metal flashing
Power Organizing Module
Photovoltaic panels
Panel racks
Windmills
Water Organizing Module
Cisterns
Gutter
Silt catch funnel
Pump panel
Grease and particle filter
Refrigerator

For more information on these components, see our equipment catalog.

Basic Floor Plan Options

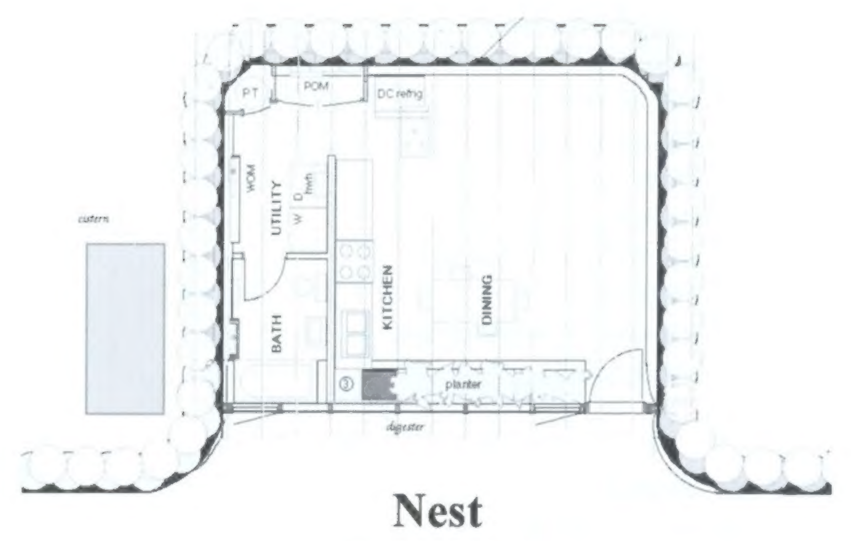
The floor plan options shown here range from the efficiency Nest to the three bedroom unit. Any of these plans can be adapted in two foot increments in the east/west dimension. The tailored options on the following pages may be added for additional design fees.



Nest

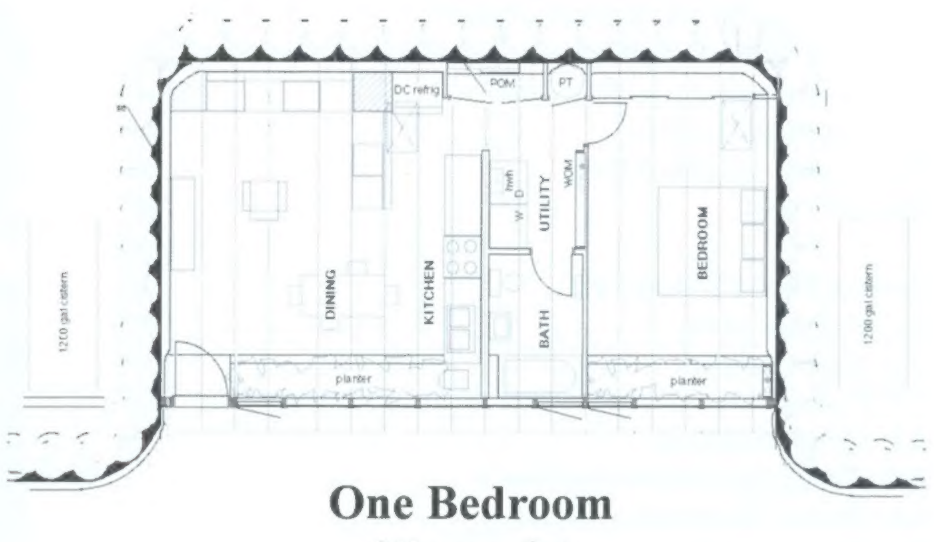


One bedroom



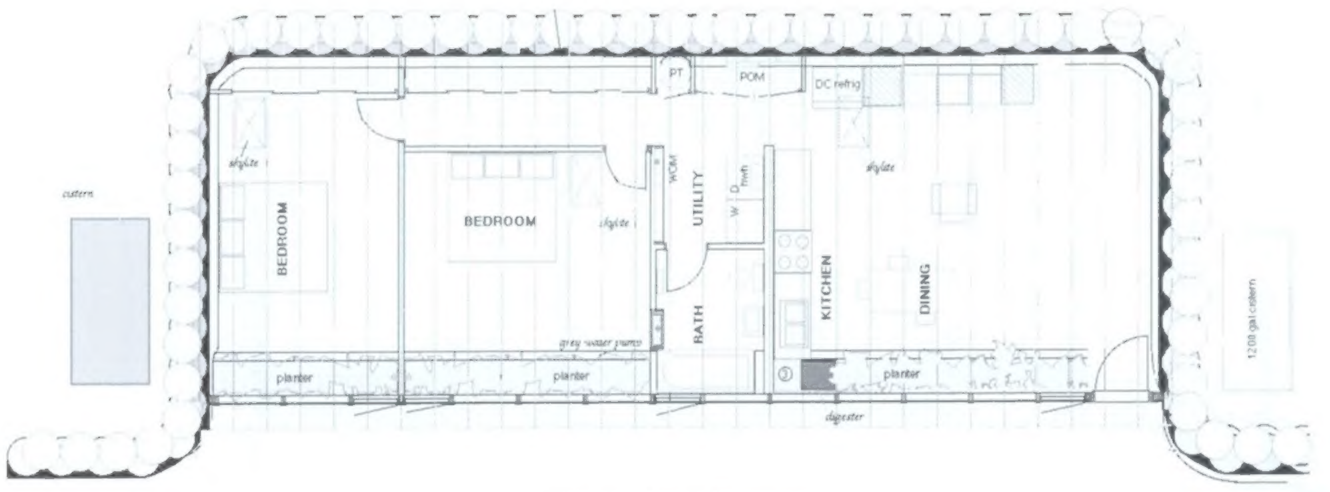
Nest

607 square feet



One Bedroom

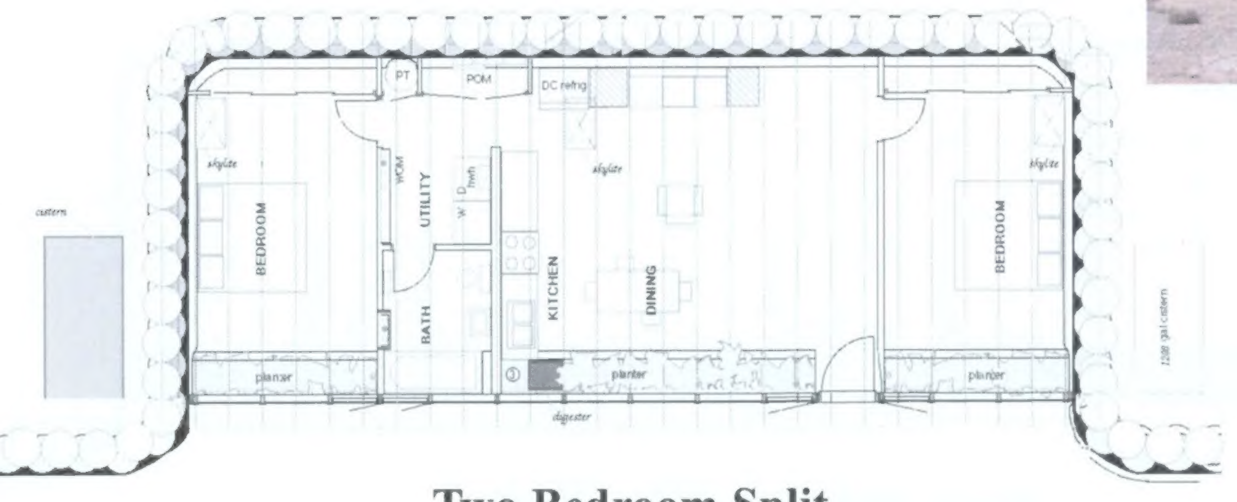
845 square feet



Two Bedroom

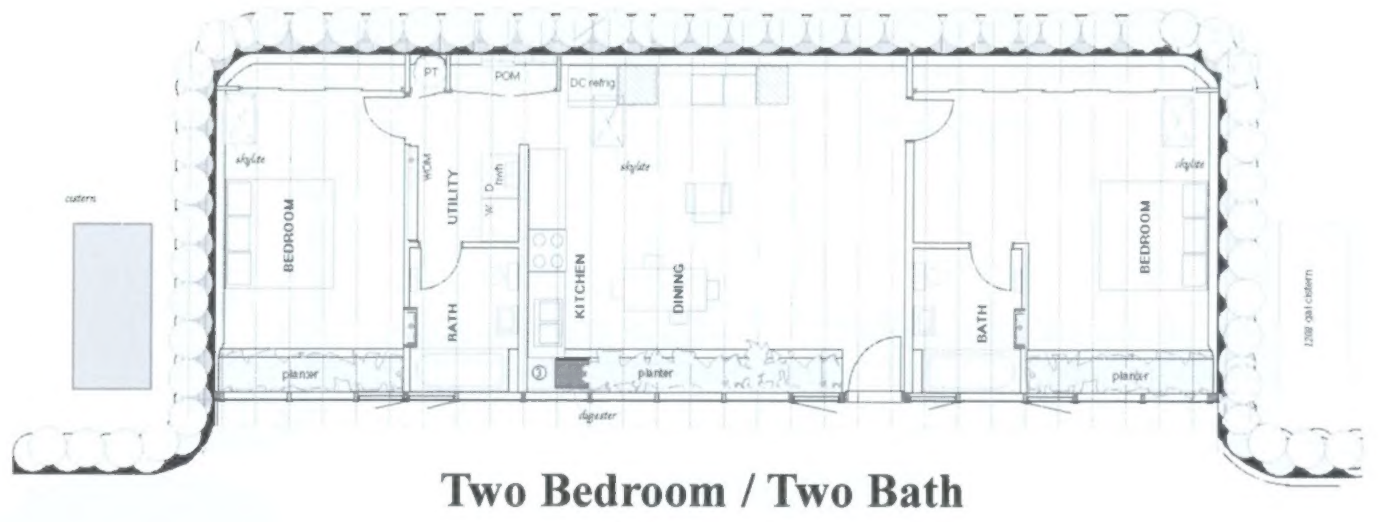
1105 square feet

Two bedroom



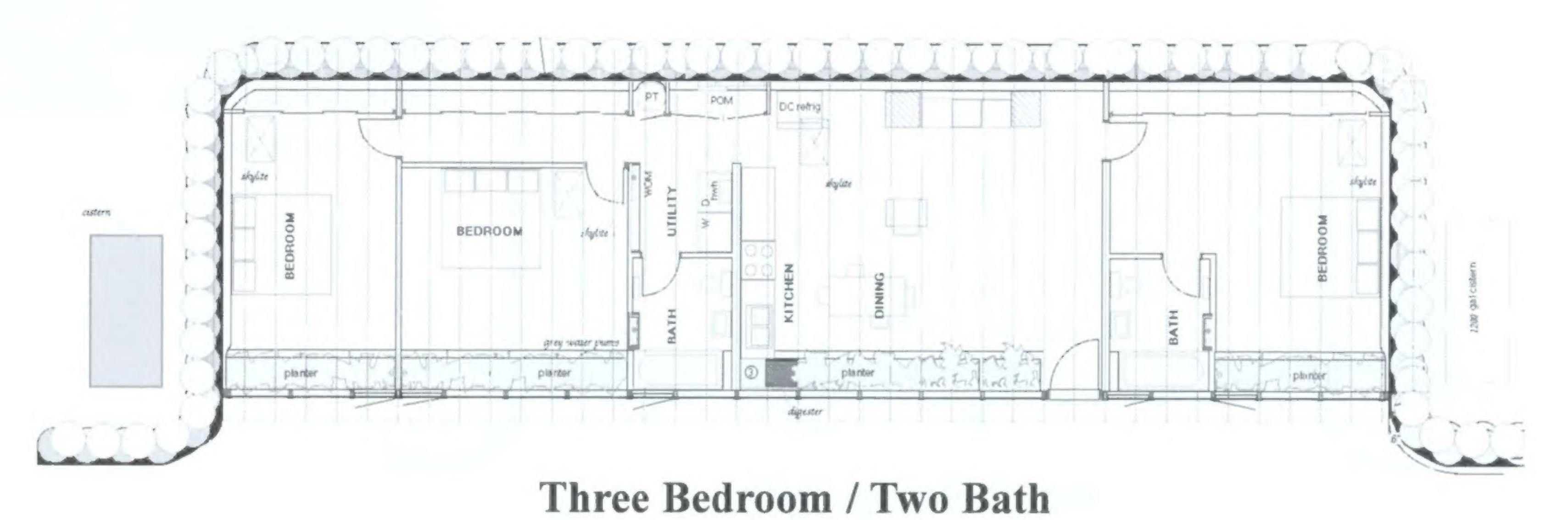
Two Bedroom Split

1192 square feet



Two Bedroom / Two Bath

1343 square feet

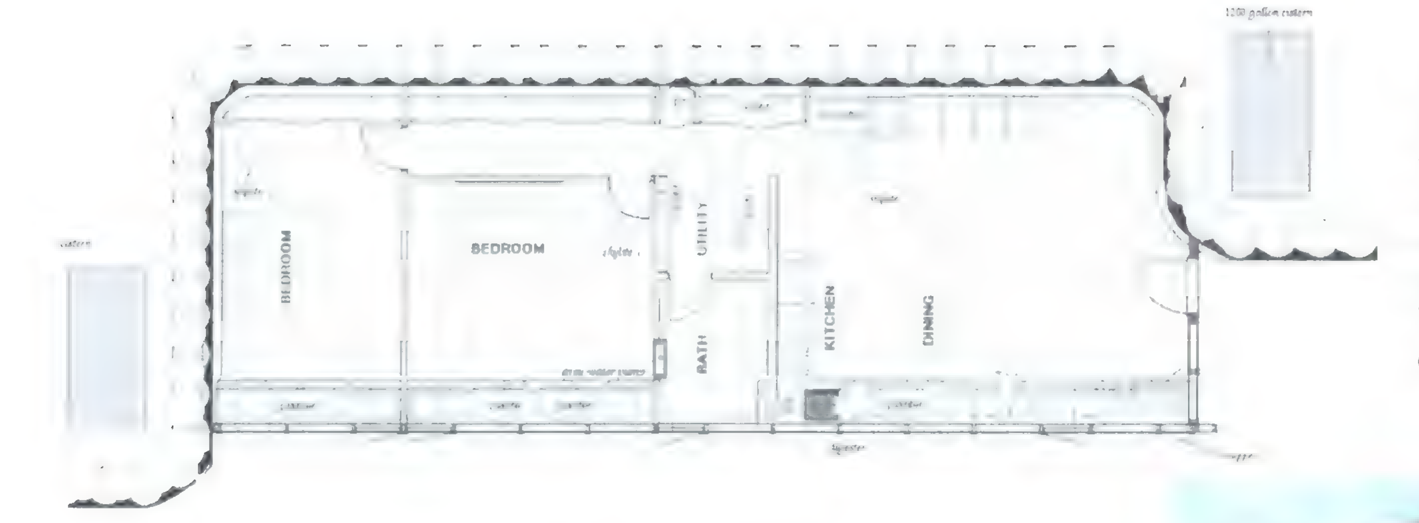


Three Bedroom / Two Bath

1690 square feet

Open End

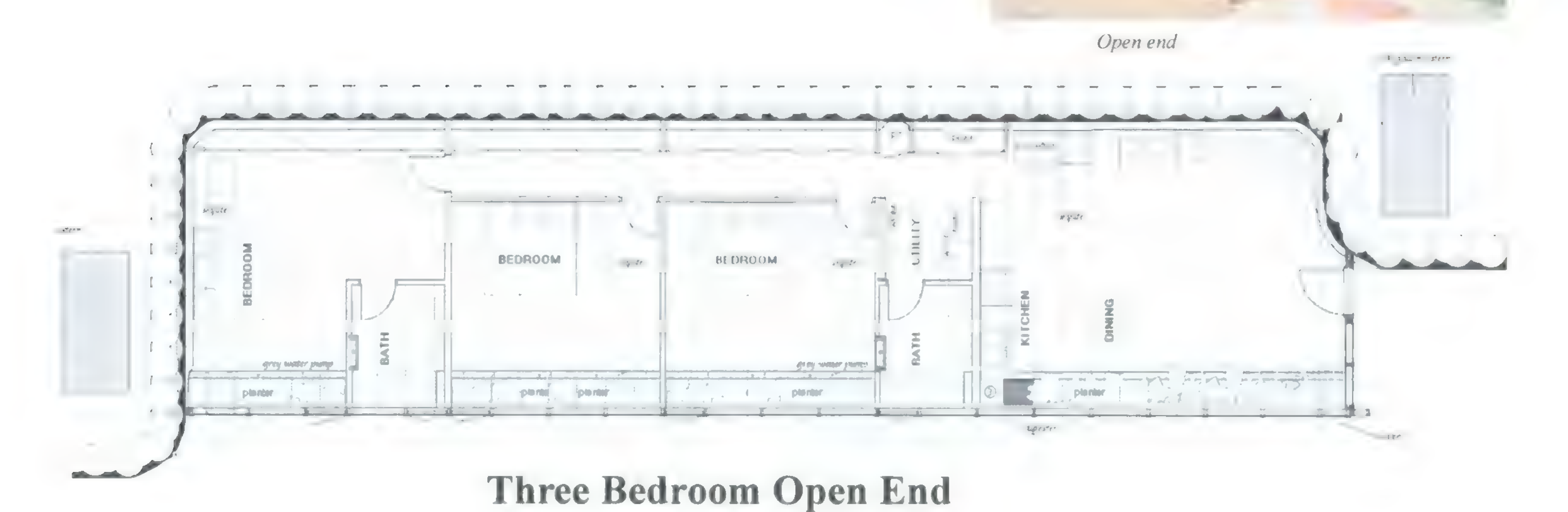
The option shown here illustrates the open end which is sometimes desired for view or access to outside. This option can also facilitate a phased building approach and or a duplex as shown on page 11.



Two Bedroom Open End

1290 square feet

Open end



Three Bedroom Open End

1777 square feet

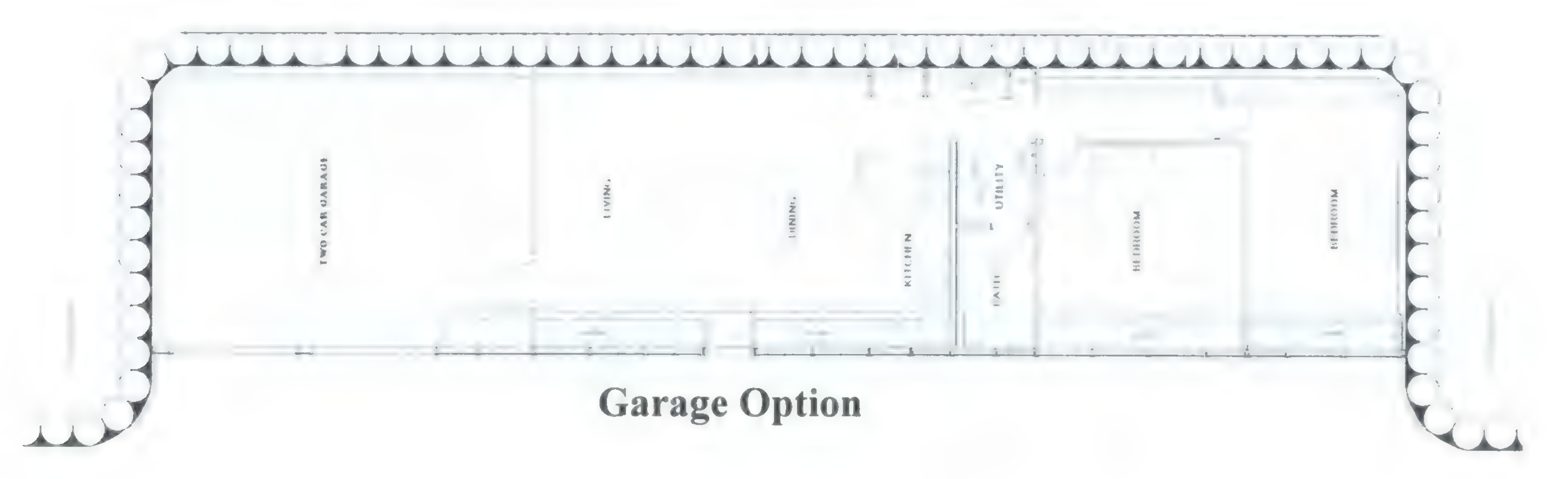
Tailored Options

Many tailored options are possible for these high performance plans. The most basic modification is increasing the building in size by adding to any room in the east/west direction in 2'-0" increments. We also have details for a garage, airlock, east or west open end, two bathrooms, rammed earth tire interior walls and masonry buttress details. Any of these options can be placed into any plan with a small tailoring fee added to the base price of the construction drawings.



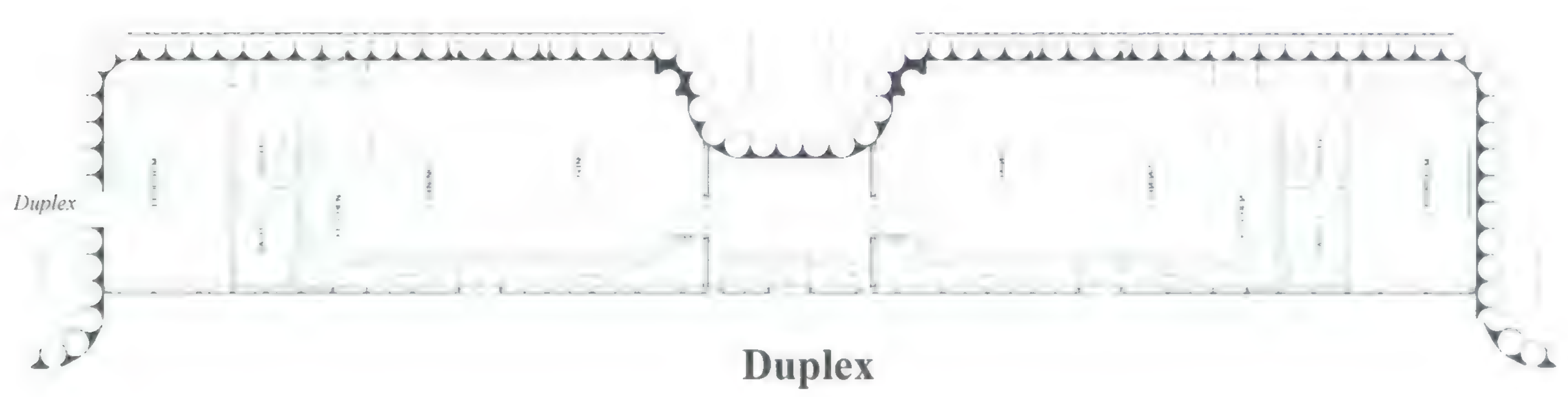
Airlock/ Office

Airlock available with or without the office option



Garage Option

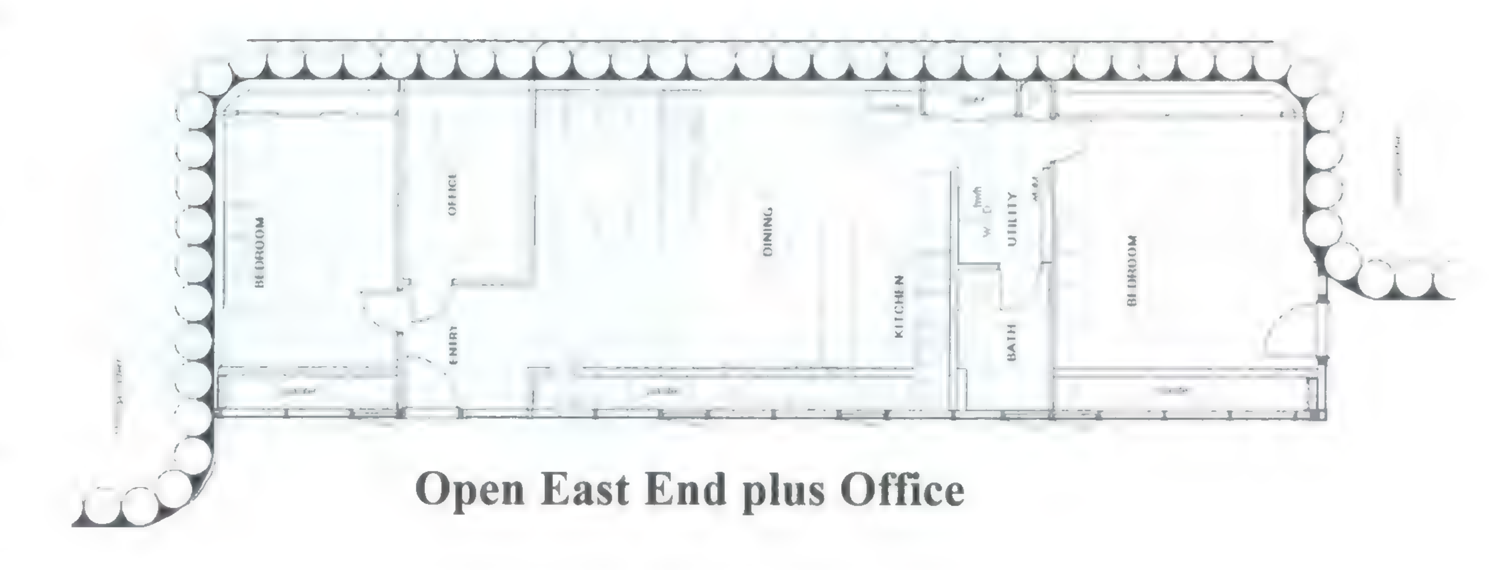




Duplex

Buttress Options

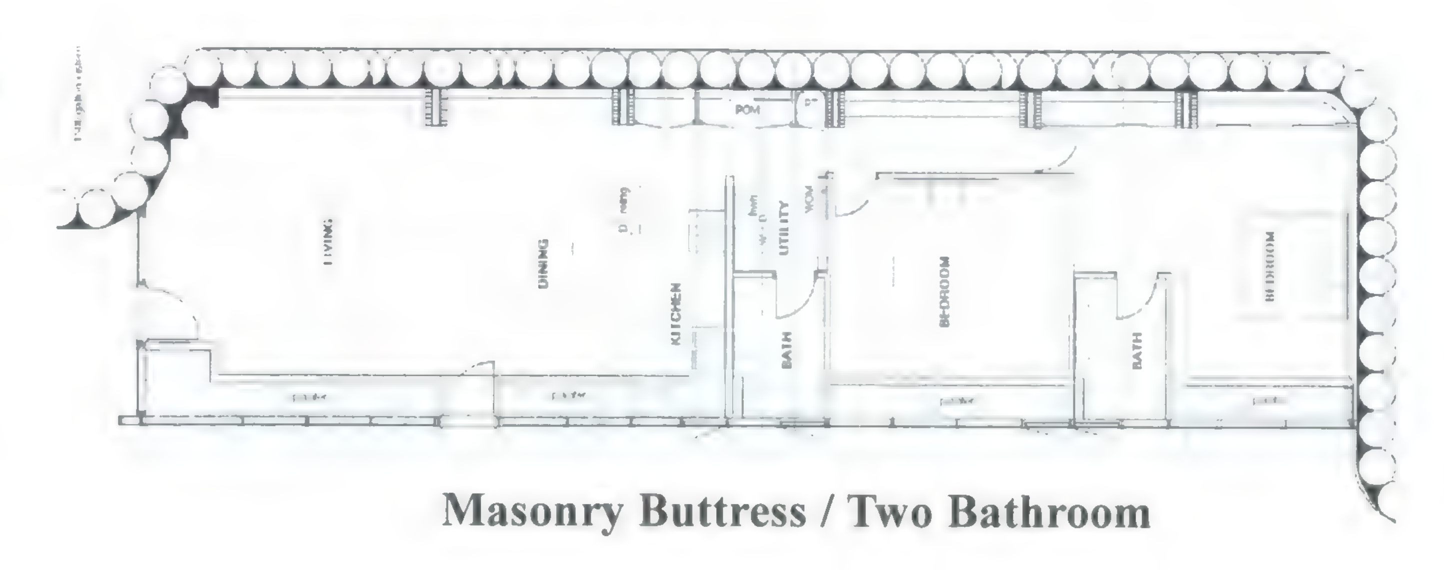
Full height tire walls are necessary in instances when the building cannot be recessed into the earth because of rock or high water tables. Masonry or tire wall buttresses are required when full height tire walls occur. The two bathroom option below illustrates the masonry buttresses. Below, tire walls provide room dividers for buttresing as well as addition thermal mass when needed in very cold or very hot climates.



Open East End plus Office



Tire Buttress



Masonry Buttress / Two Bathroom





Split Level

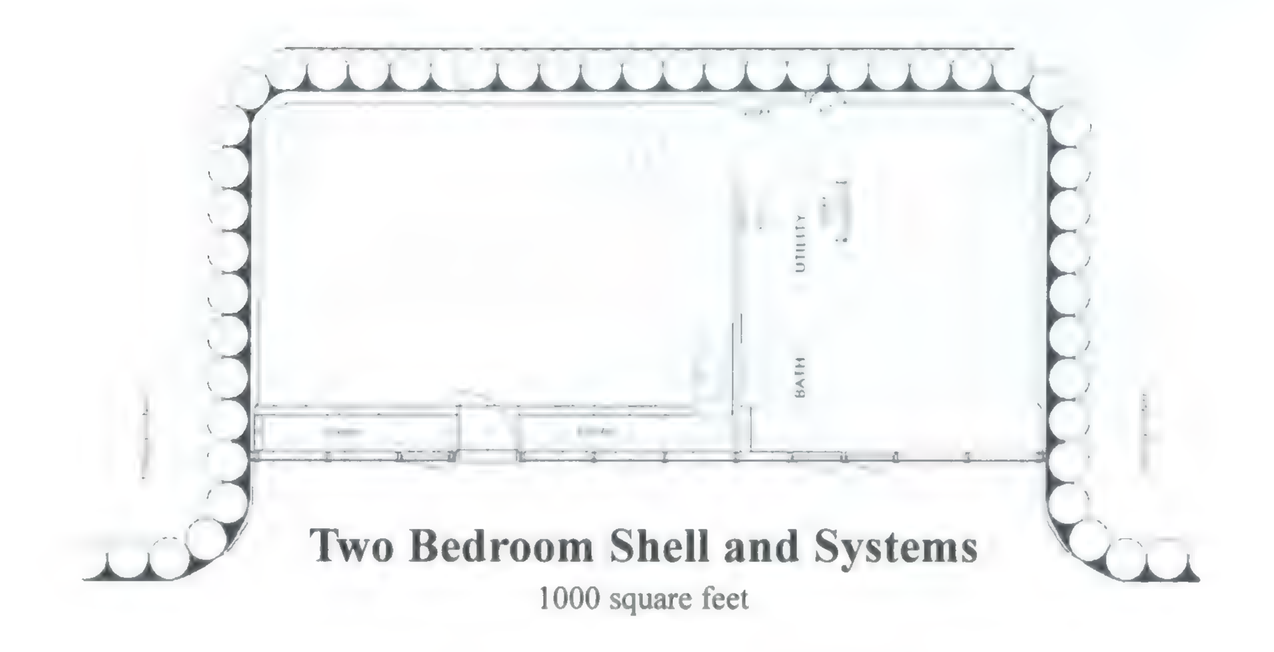
We can combine any of the single level plans to create a split level design. Split level buildings work best on sites with at least a 30% slope.

Four Bedroom Split Level

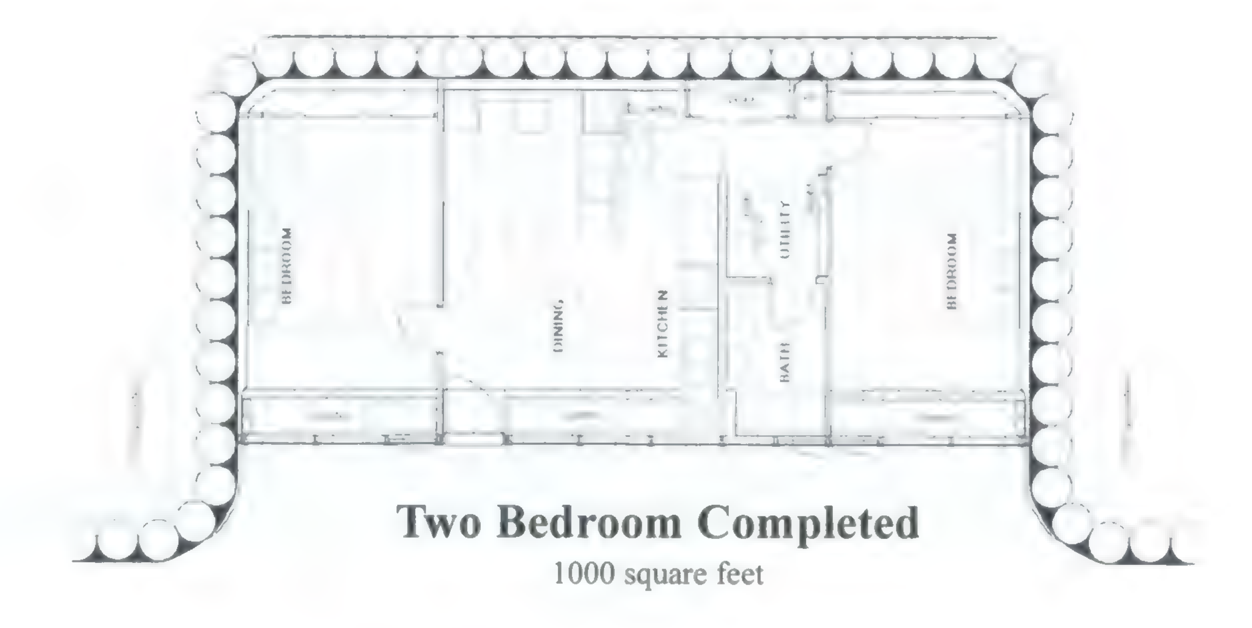
3354 square feet

Shell and Systems

Earthship Biotecture often builds the "shell and systems" of a Packaged Earthship. This allows the owner to complete the interior finishes and save on expenses. The plan at right (above) is an illustration of what the shell and systems includes. The building is totally finished on the outside with all systems functional. Water catch systems are working; sewage systems are working and all plumbing fixtures work. Power is avaiable at the POM (DC and AC) with no switches or outlets in the rooms until the owner completes finishes. No interior work is done except that which is necessary to get the systems working inside. No floors, no interior walls, cabinets or doors, no plaster, no ceiling treatment. These elements can be completed by the owner/builder or local craftsmen. This leaves the owner/builder with a fully functional, but unfinished home.



Two Bedroom Shell and Systems
1000 square feet



Two Bedroom Completed
1000 square feet



Shell and Systems Completed

The picture above illustrates a one bedroom Packaged Earthship just completed as shell and systems. Now the owner/builder can execute the finishes.

Designs

This booklet describes the Packaged Earthship design, following are details about our other designs. There are a wide variety of floor plans and we sell construction drawings for each one.

Modular Earthship
Modular Earthships provide more sculptural rooms and greater variety of spaces than packaged Earthships, but these designs tend to cost more to construct. Modular Earthship Drawings present construction details for specific modules of Earthship building. Modular drawings are available for "U" Room, Hut Room, Cistern/Systems Package, Greenhouse, Greywater, Blackwater Contained Treatment Planters, Super Cool Room and Super Warm Room.

Custom Earthships
Earthship Biotecture is available to custom design your building. Customization, consultation and retrofit available at an hourly rate. Principal: $150/hour- Staff: $75/hour.

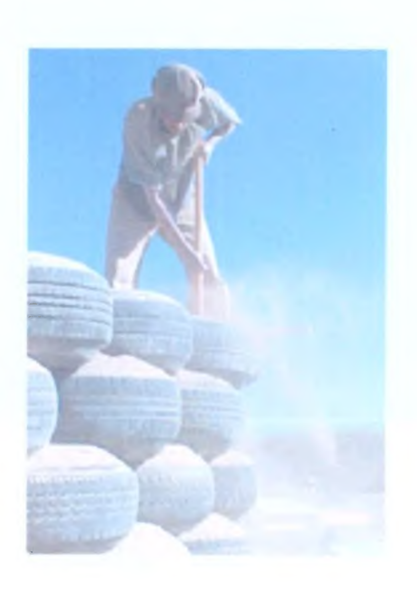


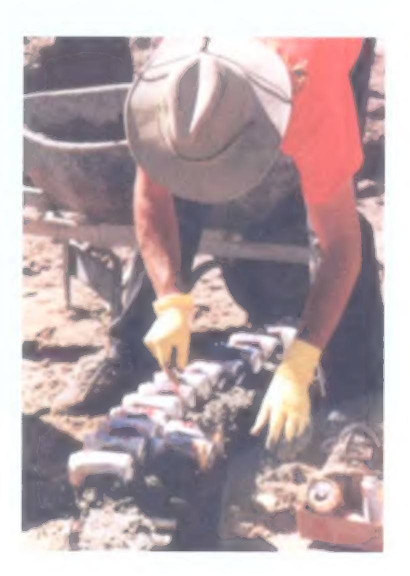
Earthship Biotecture Visitor Center at night

Seminars

Spend a weekend with Michael Reynolds--beginning with a Friday evening dinner and slide show covering the history of Earthships. Saturday includes a lecture and hands-on work. Sunday begins with another lecture, followed by a tour of the buildings in action in the Greater World Community and a question-answer session.

Seminar Cost:
$450 per person / $750 for two people
We require a $100 deposit per person to reserve each spot. Seminar fees are non-refundable, but you may change the dates with a week's notice.





Rentals

We currently offer two Earthship nightly rentals in the Greater World Earthship Community. Started in 1994, the Greater World Community consists of 630 acres of rolling mesa with a deep gorge. It's an easy 15 minute drive from the town of Taos. No smoking within the Earthships. No refunds, however reservations may be transferred to another date if necessary.



Hut Earthship

Hut Earthship

The Hut Earthship is a fully equipped and functional Earthship with a fully functional kitchen wherein you are given the opportunity to experience just what living in an Earthship would be like. In this home you will have everything that you need to experience life in an Earthship. Please not that food and drink are not provided.

HUT: 1-2 persons - 190. for the first night / 145. for subsequent nights

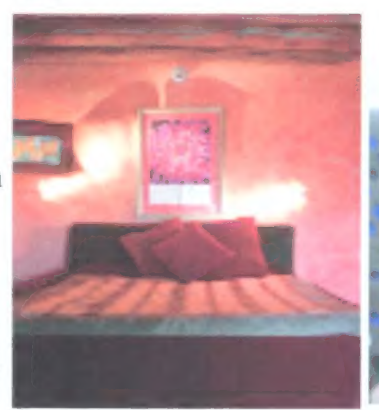


Hut Earthship

Phoenix Suite

The Phoenix Suite is the finished east end of our newest Demonstration Earthship here at Greater World Community . The main part of the Phoenix is still under construction, but the first two eastern most rooms and the east bath are complete. It is fully equipped but without a kitchen so we provide carryout menus from various restaurants. Staying in the Phoenix Studio/Suite affords you the rare opportunity of both experiencing life in an Earthshipand a glimpse of how they are built. You are welcome to tour the completion of the mid and west end of this 5,000 sq. ft. Earthship during your stay and ask questions of the crew if you are there on a weekday.

PHOENIX SUITE - 1-2 persons - 135. per night. 3-4 persons - 190. per night





Phoenix Suite

Books:

Earthship Volume I, "How to Build Your Own" $33.95
Basic construction of self-sufficient tire homes

Earthship Volume II, "Systems and Components" $33.95
Plumbing, interior, photovoltaic panels, water systems

Earthship Volume III, "Evolution Beyond Economics"..$33.95
High performance designs and systems, urban and community applications

A Coming of Wizards..$20.95
Metaphysical "Manual of Human Potential"

Comfort in any Climate $23.50
Basic principals behind building a comfortable home anywhere

Water From the Sky $39.95
Clear explanation of the four uses of water in Earthships

Booklets:

Engineer's Tire Analysis $40.00
Structural analysis of the Weaver Earthship tire construction

Videos:

Earthships 101 video(VHS or DVD format)..........................$19.95
Informative 12 minute video of Earthship basics

From the Ground Up video(VHS or DVD format)................$26.95
Sequenced building of a three "U" Earthship

Hut video(VHS or DVD format)..$26.95
Instructional video of this one room circular Earthship with domed roof

Demo Documentary..$26.95
Documents several global demonstrations

Drawings:

Modular Construction Drawings
"U" drawings...$1,500.00
Hut drawings...$1,500.00
Systems Room / Cistern drawings..............................$1,500.00
Greenhouse drawings..$1,500.00
Gray water / Black water Planter drawings................$1,500.00

Packaged One Level Drawings
"Nest" Studio, 607 sq ft..$5,000
1 Bedroom, 1 Bath, 845 sq ft $5,500
2 Bedroom, 1 Bath, 1278 sq ft...$5,600
2 Bedroom, 2 Bath, 1343 sq ft $5,700
3 Bedroom, 2 Bath, 1690 sq ft... $6,000
2 Bedroom, 2 Bath, Garage, 1450 sq ft...........................$6,100

Customization, consultation and retrofit available at an hourly rate.
Principal $200 / hour (1/2 hr minimum)

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